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LUMEN PATENT FIRM 2345 YALE STREET SECOND FLOOR PALO ALTO, CA 94306			EXAMINER	
TIV, BACKHEAN				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/821,756

Applicant(s)

JOHANSON ET AL.

Examiner

BACKHEAN TIV

Art Unit

2451

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/19/08.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-4, 11, 12 and 23-39 is/are pending in the application.
- 4a) Of the above claim(s) 1, 5-10 and 13-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-4, 11, 12 and 23-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/808)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Detailed Action

Claims 2-4,11,12,23-39 are pending in this application. Claims, 1, 5-10, 13-22 have been cancelled. Claims 2-4,11,12,23-39 were amended, on 12/19/08, in the Response to the Non-Final Action mailed on 10/31/08. This is a **Final Rejection**.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2-4,11,12,23-39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 23, 29 recites the limitation "the same". There is insufficient antecedent basis for this limitation in the claim.

Claims 23, 29 recites the limitation "said standard source fields". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 2-4, 23-35,38,39 are rejected under 35 U.S.C. 102(b) as being anticipated by "The Event Heap: A coordination Infrastructure for Interactive Workspaces", by Johanson.

As per claim 23, Johanson teaches a computer system for exchanging events in an interactive workspace(Abstract), comprising:

(a) a plurality of heterogeneous software applications, called clients, wherein said clients are run by a plurality of heterogeneous machines of said interactive workspace (Section 1);

(b) a server for coordinating exchanges of a plurality of events between said clients, wherein each of said unordered named fields of each of said events comprises a post value and a template value; (Section 2.3);

(c) a network for connecting said server and said plurality of clients(Section 1);

(d) a post function for allowing each of said clients to assign one or more of said post values to said unordered named fields of one of said events and to post the same of said events, wherein said posted event is posted on said server(Section 2.3, 3.3) and

(e) a retrieve function for allowing each of said clients to retrieve said posted event from said server, wherein said retrieve function allows each of said clients to assign one or more of said template values to said unordered named fields of one of said events, referred to as template event, wherein said template value of one of said unordered named fields of said template event specifies a matching requirement on said post values of the same of said unordered named fields of said posted events, wherein said posted event is retrieved based on matching said one or more post values of said unordered named fields of said posted event with said one or more template values of said unordered named fields of said template event, and wherein said

matching ignores a field order of some or all of said unordered named fields of said posted event and said template event(Section 2.3, 3.1-3.4);

wherein said of unordered named fields of each of said events comprises multiple standard source fields, wherein said set of unordered named fields further comprises a target field corresponding to each of said standard source fields, wherein said standard source fields are associated with said clients posting said events, wherein said target fields are associated with said clients retrieving said events, and wherein said standard source fields and said corresponding target field are used for routing said events between said clients(Section 2.3, 3.1-3.4).

As per claim 2, the-system as set forth in claim 23, wherein said standard source fields include an application instance, an application name, a device name, a person, and a group, wherein said standard source fields are set to wildcards by default for said template events for retrieving said posted event, and wherein said target fields are set to wildcards by default for said posted events (Section 1-7).

As per claim 3, the system as set forth in claim 23, wherein said set of unordered named fields of each of said events includes multiple fields, wherein said standard fields comprise an Event Type, a Sequence ID, a TimeToLive, and a TimeStamp(Section 1-7).

As per claim 4, the system as set forth in claim 23, wherein said post and said template values of said unordered named fields can be marked as formal value or a virtual value, wherein each of said unordered named fields marked as said formal value matches any value in said matching of said posted event with said template event, and

wherein each of said unordered named fields marked as said virtual value is ignored in said matching of said posted event with said template event(Section 1-7).

As per claim 24, the system as set forth in claim 23, wherein said set of unordered named fields of said posted event comprises an expiration field for determining an expiration time of said posted event(Section 1-7).

As per claim 25, the system as set forth in claim 23, further comprising a query function for allowing each of said clients to register a query template event onto said server and to assign one or more values to said unordered named fields of said query template event, wherein said posted event is returned to said client that registered said query template event based on matching said one or more values of said unordered named fields of said posted event and said one or more values of said unordered named fields of said query template event, and wherein said posted event is returned to said client that registered said query template event only if said posted event is posted after said query template event is registered(Section 1-7).

As per claim 26, the system as set forth in claim 25, wherein said query function allows each of said clients to unregister said query template event, wherein said query template event is removed from said server when said query template event is unregistered(Section 1-7).

As per claim 27, the system as set forth in claim 23, wherein one of said clients posting one of said posted events does not directly communicate with said client retrieving the same of said posted events(Section 1-7).

As per claim 28, the system as set forth in claim 23, wherein said interactive workspace of said plurality of heterogeneous machines is in a bounded physical environment(Section 1-7).

As per claims 29-35,38,39, do not teach or further define over the limitations in claims 2-4, 23-28 . Therefore claims 29-35,38,39 are rejected for the same reasons set forth above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11,12,36,37 are rejected under 35 U.S.C. 103(a) as being unpatentable over “The Event Heap: An Enabling Infrastructure for Interactive Workspaces”, Johanson et al.(Johanson-EventHeap-2000) in view of Office Notice.

As per claim 11, 36, wherein said retrieve function retrieves one of said posted events at most once, and wherein said retrieve function retrieves the same of said posted events based on a ordering said events first-in-first-out per source ordering(Section 1-7). First-in-first-out is well known to one ordinary skill in the art. Therefore it would have been obvious to one ordinary skill in the art to use FIFO for

ordering in order to make sure the first posted event is retrieved first and not retrieved out of order.

As per claim 12, 37, further comprising a restart function for implementing said machines with modular automatically reconnecting one or more of said clients to said server. A restarting function and automatically reconnecting a client to a server is well known to one ordinary skill in the art. Therefore it would have been obvious to one ordinary skill in the art at the time of the invention to restart and automatically reconnecting a client to a server so that a user does not have to manually reconnect to the server.

Claims 2-4, 23-35,38,39 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,901,441 issued to Bent et al.(Bent) in view of US Patent 5,974,420 issued to Lehman et al.(Lehman) in further view of "Tuplespaces as Coordination Infrastructure for Interactive Workspaces", written by Johanson et al.(Johanson) in further view of "The Event Heap: An Enabling Infrastructure for Interactive Workspaces", Johanson et al.(Johanson-EventHeap-2000).

As per claim 23, Bent teaches a computer system for exchanging events in an interactive workspace(Abstract), comprising: (a) a plurality of heterogeneous software applications, called clients, wherein said clients are run by a plurality of heterogeneous machines of said interactive workspace(Figs.1-11); (b) a server for coordinating exchanges of a plurality of events between said clients, (col.2, lines 55-64); (c) a

network for connecting said server and said plurality of clients(Figs.1-11, col.8, lines 25-60.

Bent however does not explicitly teach wherein each of said unordered named fields of each of said events comprises a post value and a template value; wherein each of said events comprises a set of unordered named fields; (d) a post function for allowing each of said clients to assign one or more of said post values to said unordered named fields of one of said events and to post the same of said events, wherein said posted event is posted on said server and (e) a retrieve function for allowing each of said clients to retrieve said posted event from said server, wherein said retrieve function allows each of said clients to assign one or more of said template values to said unordered named fields of one of said events, referred to as template event, wherein said template value of one of said unordered named fields of said template event specifies a matching requirement on said post values of the same of said unordered named fields of said posted events, wherein said posted event is retrieved based on matching said one or more post values of said unordered named fields of said posted event with said one or more template values of said unordered named fields of said template event, and wherein said matching ignores a field order of some or all of said unordered named fields of said posted event and said template event;

wherein said of unordered named fields of each of said events comprises multiple standard source fields, wherein said set of unordered named fields further comprises a target field corresponding to each of said standard source fields, wherein said standard source fields are associated with said clients posting said events, wherein

said target fields are associated with said clients retrieving said events, and wherein said standard source fields and said corresponding target field are used for routing said events between said clients.

Lehman teaches wherein each of (d) a post function for allowing each of said clients to assign one or more values to said unordered named fields of one of said events and to post the same of said events, wherein said posted event is posted on said server(col.3, lines 5-col.6, lines 53); (e) a retrieve function for allowing each of said clients to retrieve said posted event from said server, wherein said retrieval is accomplished by each of said clients specifying a template event and assigning one or more values to said unordered named fields of said template event, wherein said posted event is retrieved based on matching said one or more values of said unordered named fields of said posted event with said one or more values of said unordered named fields of said template event, and wherein said matching ignores a field order of some or all of said unordered named fields of said posted event and said template event(col.5, lines 25-col.6, lines 17, col.6, lines55-col.7, lines 55).

Therefore it would have been obvious to one ordinary skill in the art at the time of the invention to modify the teachings of Bent to include posting functions for events to the server as taught by Lehman in order to exchange information in a tuplespace (Lehman, col.1, lines 5-10).

One ordinary skill in the art would have been motivated to combine the teachings of Bent and Lehman in order to exchange information in a tuplespace (Lehman, col.1, lines 5-10).

Bent in view of Lehman does not teach said events comprises a set of unordered named fields.

Johanson teaches using unordered named fields (Section 2.6).

Therefore it would have been obvious to one ordinary skill in the art at the time of the invention to modify the teachings of Lehman in view of Bent to include unordered named fields as taught by Johanson in order for a more flexible and adaptive tuplespace of an interactive workspace.

One ordinary skill in the art would have been motivated to combine the teachings of Bent, Lehman, Johanson in order for a more flexible and adaptive tuplespace of an interactive workspace.

Bent in view of Lehman in further view of Johanson does not teach wherein each of said unordered named fields of each of said events comprises a post value and a template value; wherein said of unordered named fields of each of said events comprises multiple standard source fields, wherein said set of unordered named fields further comprises a target field corresponding to each of said standard source fields, wherein said standard source fields are associated with said clients posting said events, wherein said target fields are associated with said clients retrieving said events, and wherein said standard source fields and said corresponding target field are used for routing said events between said clients.

Johanson-EventHeap-2000 teaches wherein each of said unordered named fields of each of said events comprises a post value and a template value; wherein said of unordered named fields of each of said events comprises multiple standard source

fields, wherein said set of unordered named fields further comprises a target field corresponding to each of said standard source fields, wherein said standard source fields are associated with said clients posting said events, wherein said target fields are associated with said clients retrieving said events, and wherein said standard source fields and said corresponding target field are used for routing said events between said clients(Section 4.0-The Event Heap Architecture).

Therefore it would have been obvious to one ordinary skill in the art at the time of the invention to modify the teachings of Bent in view of Lehman in further view of Johanson to include wherein each of said unordered named fields of each of said events comprises a post value and a template value; wherein said of unordered named fields of each of said events comprises multiple standard source fields, wherein said set of unordered named fields further comprises a target field corresponding to each of said standard source fields, wherein said standard source fields are associated with said clients posting said events, wherein said target fields are associated with said clients retrieving said events, and wherein said standard source fields and said corresponding target field are used for routing said events between said clients as taught by Johanson-EventHeap-2000 in order for a flexible interactive workspace(Johanson-EventHeap-2000, section 9).

One ordinary skill in the art would have been motivated to combine the teachings of Bent, Lehman, Johanson and Johanson-EventHeap-2000 in order for a flexible interactive workspace(Johanson-EventHeap-2000, section 9).

As per claim 2, the-system as set forth in claim 23, wherein said standard source fields include an application instance, an application name, a device name, a person, and a group, wherein said standard source fields are set to wildcards by default for said template events for retrieving said posted event, and wherein said target fields are set to wildcards by default for said posted events, I(Bent, col.5, lines 1-33, Johanson, pgs.1-6). Motivation to combine set forth in claim 23.

As per claim 3, the system as set forth in claim 23, wherein said set of unordered named fields of each of said events includes multiple fields, wherein said standard fields comprise an Event Type, a Sequence ID, a TimeToLive, and a TimeStamp(Bent, col.5, lines 1-33 Johanson, pgs.1-6, Section 4.0-The Event Heap Architecture). Motivation to combine set forth in claim 23.

As per claim 4, the system as set forth in claim 23, wherein said post and said template values of said unordered named fields can be marked as formal value or a virtual value, wherein each of said unordered named fields marked as said formal value matches any value in said matching of said posted event with said template event, and wherein each of said unordered named fields marked as said virtual value is ignored in said matching of said posted event with said template event(Bent, col.5, lines 1-33, Lehman, col.1, lines 25-35,col.5, lines 25-col.6, lines 17, col.6, lines55-col.7, lines 55, Johanson, pgs.1-6; Lehman teaches Linda Tuplespace, Section 4.0-The Event Heap Architecture). Motivation to combine set forth in claim 23.

As per claim 24, the system as set forth in claim 23, wherein said set of unordered named fields of said posted event comprises an expiration field for

determining an expiration time of said posted event(Bent, col.5, lines 1-33, Lehman, col.5, lines 25-col.6, lines 17, col.6, lines55-col.7, lines 55).

As per claim 25, the system as set forth in claim 23, further comprising a query function for allowing each of said clients to register a query template event onto said server and to assign one or more values to said unordered named fields of said query template event, wherein said posted event is returned to said client that registered said query template event based on matching said one or more values of said unordered named fields of said posted event and said one or more values of said unordered named fields of said query template event, and wherein said posted event is returned to said client that registered said query template event only if said posted event is posted after said query template event is registered(Bent, Figs.1-11, Lehman, col.4, lines 55-col.8, lines 58, Section 4.0-The Event Heap Architecture). Motivation to combine set forth in claim 23.

As per claim 26, the system as set forth in claim 25, wherein said query function allows each of said clients to unregister said query template event, wherein said query template event is removed from said server when said query template event is unregistered(Lehman, col.4, lines 22-52). Motivation to combine set forth in claim 23.

As per claim 27, the system as set forth in claim 23, wherein one of said clients posting one of said posted events does not directly communicate with said client retrieving the same of said posted events(Bents, Abstract).

As per claim 28, the system as set forth in claim 23, wherein said interactive workspace of said plurality of heterogeneous machines is in a bounded physical environment(Bent, Figs.1-11).

As per claims 29-35,38,39, do not teach or further define over the limitations in claims 2-4, 23-28 . Therefore claims 29-35,38,39 are rejected for the same reasons set forth above.

Claims 11,12,36,37 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,901,441 issued to Bent et al.(Bent) in view of US Patent 5,974,420 issued to Lehman et al.(Lehman) in further view of "Tuplespaces as Coordination Infrastructure for Interactive Workspaces", written by Johanson et al.(Johanson) in further view of in further view of "The Event Heap: An Enabling Infrastructure for Interactive Workspaces", Johanson et al.(Johanson-EventHeap-2000) in further view of Office Notice.

As per claim 11, 36, wherein said retrieve function retrieves one of said posted events at most once, and wherein said retrieve function retrieves the same of said posted events based on a ordering said events first-in-first-out per source ordering(Lehman, col.5, lines 25-col.6, lines 17, col.6, lines55-col.7, lines 55). First-in-first-out is well known to one ordinary skill in the art. Therefore it would have been obvious to one ordinary skill in the art to use FIFO for ordering in order to make sure the first posted event is retrieved first and not retrieved out of order.

As per claim 12, 37, further comprising a restart function for implementing said machines with modular automatically reconnecting one or more of said clients to said server. A restarting function and automatically reconnecting a client to a server is well known to one ordinary skill in the art. Therefore it would have been obvious to one ordinary skill in the art at the time of the invention to restart and automatically reconnecting a client to a server so that a user does not have to manually reconnect to the server.

Response to Arguments

Applicant's arguments with respect to claims 2-4,11,12,23-39 have been considered but are moot in view of the new ground(s) of rejection.

Note: the reference "The Event Heap: A coordination Infrastructure for Interactive Workspaces", by Johanson et al.(Johanson-EHIW), section 5.1, 3rd paragraph states, "Several other locations on Stanford campus are also testing use of the Event Heap and other software from our research group, including one actively used classroom. In early April, 2002, following an initial release in Summer 2001, we released our second set of installers for either setting up an interactive workspace with some of the basic programs we have developed...", suggest that the invention was in public use a year prior to the filing of the application, see MPEP 706.02(c) and 2133.03.

Conclusion

Examiner's Note: Examiner has cited particular columns and line numbers in the references as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are

applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in its entirety as potentially teaching of all or part of the claimed invention.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Backhean Tiv whose telephone number is (571) 272-5654. The examiner can normally be reached on M-F 6:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (571) 272-3964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

B. T.
Backhean Tiv
Examiner, Art Unit 2451
3/16/09

/John Follansbee/

Supervisory Patent Examiner, Art Unit 2451

